IN THE CLAIMS

I claim:

1. An apparatus, comprising:

a substrate;

a first layer deposited on the substrate having a first secondary emission ratio;

a second layer disposed on the first layer having a second secondary emission ratio; and

wherein the first secondary emission ratio and the second secondary emission ratio differ by at least a factor of 10.

2. The apparatus of claim 1, further comprising:

an intermediate layer disposed between the first layer and the second layer.

3. An apparatus, comprising:

a substrate; and

a phase change layer disposed on the substrate having a first phase with a first secondary emission ratio and a second phase with a second secondary emission ratio.

4. The apparatus of claim 3, further comprising:

an intermediate layer disposed between the phase change layer and the substrate.

5. A medium for use in a carbon nanotube drive, comprising:

a substrate;

a first layer deposited on the substrate having a first secondary emission ratio;

a second layer disposed on the first layer having a second secondary emission ratio; and

wherein the first secondary emission ratio and the second secondary emission ratio differ by a factor detectable during secondary emission of electrons responsive to electrons from the carbon nanotube drive.

6. A medium for use in a carbon nanotube drive, comprising:

a substrate; and

a phase change layer disposed on the substrate having a first phase with a first secondary emission ratio and a second phase with a second secondary emission ratio.

7. A method, comprising:

receiving a substrate; and

depositing on the substrate a first layer of material having a first secondary emission ratio.

8. The method of claim 7, wherein:

the first secondary emission ratio is associated with a first phase of the first layer, and the first layer has a second phase with an associated second secondary emission ratio.

9. The method of claim 7, further comprising:

depositing on the first layer a second layer having a second secondary emission ratio.

10. The method of claim 9, wherein:

the second secondary emission ratio is greater than the first secondary emission ratio by a factor of at least 10.

11. A disk drive, comprising:

an enclosed medium, the enclosed medium including:

a substrate,

a first layer deposited on the substrate having a first secondary emission ratio,

a second layer disposed on the first layer having a second secondary emission ratio,

an actuator positioned to move within the disk drive in proximity to the medium; and

a read/write head coupled to the actuator, the head including:

a substrate,

a carbon nanotube mounted on the substrate, and

an extraction electrode mounted in proximity to a tip of the carbon nanotube.

12. A disk drive, comprising:

an enclosed medium, the enclosed medium including:

a substrate, and

a phase change layer disposed on the substrate having a first phase with a first secondary emission ratio and a second phase with a second secondary emission ratio;

an actuator positioned to move within the disk drive in proximity to the medium; and

a read/write head coupled to the actuator, the head including:

a substrate,

a carbon nanotube mounted on the substrate, and

an extraction electrode mounted in proximity to a tip of the carbon nanotube.

13. A method, comprising:

receiving electrons at a spot of a phase change material having a first phase and a second phase, the first phase having associated therewith a first secondary emission ratio, the second phase having associated therewith a second secondary emission ratio; and

absorbing the electrons within a portion of the phase change material, the portion aligned with the spot, the portion in the first phase prior to absorbing the electrons;

changing the portion of the phase change material to the second phase responsive to absorbing the electrons.

14. The method of claim 13, further comprising:

cooling the portion of the phase change material quickly after absorbing the electrons.

15. The method of claim 13, further comprising:

cooling the portion of the phase change material slowly after absorbing the electrons.

16. A method, comprising:

receiving electrons at a spot of a first layer of a medium, the first layer disposed above a second layer, the first layer having a first secondary emission ratio, the second layer having a

second secondary emission ratio, the first secondary emission ratio differing from the second secondary emission ratio; and

removing a portion of the first layer responsive to receiving the electrons, the portion aligned with the spot.

17. The method of claim 16, wherein:

the portion is ablated during removing the portion of the first layer.

18. The method of claim 16, wherein:

the portion is vaporized during removing the portion of the first layer.

19. The method of claim 16, wherein:

the electrons are further received in an intermediate layer disposed between the first layer and the second layer;

and further comprising:

ablating the intermediate layer in alignment with the spot, the ablating the intermediate layer also removing the first layer.

20. A method, comprising:

projecting electrons from a carbon nanotube at a spot of a first layer of a medium, the first layer disposed above a second layer, the first layer having a first secondary emission ratio, the second layer having a second secondary emission ratio, the first secondary emission ratio differing from the second secondary emission ratio, the number and energy of electrons projected based on an expected amount of energy to remove a portion of the first layer, the portion of the first layer aligned with the spot; and

removing a portion of the first layer responsive to receiving the electrons.

21. The method of claim 20, wherein:

the portion of the first layer is ablated during removing the portion of the first layer.

22. The method of claim 20, wherein:

the portion of the first layer is vaporized during removing the portion of the first layer.

23. The method of claim 20, wherein:

the electrons are further received in an intermediate layer disposed between the first layer and the second layer, the expected amount of energy to remove the first layer includes energy to ablate the intermediate layer;

and further comprising:

ablating the intermediate layer in alignment with the spot, the ablating the intermediate layer also removing the first layer.

24. A method, comprising:

projecting electrons from a carbon nanotube at a spot of a phase change material having a first phase and a second phase, the first phase having associated therewith a first secondary emission ratio, the second phase having associated therewith a second secondary emission ratio; and

absorbing the electrons within a portion of the phase change material, the portion aligned with the spot, the portion in the first phase prior to absorbing the electrons;

changing the portion of the phase change material from the first phase to the second phase responsive to absorbing the electrons.

25. The method of claim 24, further comprising:

cooling the portion of the phase change material quickly after absorbing the electrons.

26. The method of claim 24, further comprising:

cooling the portion of the phase change material slowly after absorbing the electrons.

27. An apparatus, comprising:

first means for emitting secondary electrons at a first rate;

second means for emitting secondary electrons at a second rate; and

support means for supporting the first means and the second means.

28. That which is described and equivalents thereof.